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THE RELATION OF HIGH SCHOOLS TO COLLEGES.

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[A paper read at the late meeting of the High School section of the State Association, Oct. 22, 1869.]

THE question of university reform is every year assuming greater importance, but its discussion has been confined chiefly to academic bodies, and to those immediately interested in promoting higher scholarship. I shall attempt to show, in the present paper, that this question concerns also those who have charge of our High-school education, and that the High Schools must play an important part in carrying out any successful plan of university reform. What I have to say applies especially to those schools which are devoted mainly or entirely to preparing boys for college, and, with more or less qualification, to all High Schools.

It is only by a most absurd perversion of ideas, and completely losing sight of the purpose for which both school and college exist, that even a suspicion of mutual antagonism or diversity of interests could arise. The notion, for example, that a standard of admission to college can be so set as to be at the same time beneficial to the college and injurious to the school, is one which ought to need no refutation in an assembly of scholars. The best interests of sound learning — which are the same for both schools and colleges — should decide this question, and no subordinate interests should be considered. Indeed, where all the schools are under

the same direction, and a uniform standard can be assumed in all (as in Germany), it is found best to give over the whole business of examining for admission to the university to the authorities of the schools, who are justly supposed to be best qualified for the task by their knowledge of the pupils and of their studies. And I never heard a complaint that the *Abiturient-examen* of a German gymnasium erred on the side of lenity.

But although the general principle may be admitted, still complaints are often heard from the schools of the requisitions of the colleges, and other equally loud complaints come from the colleges of what are deemed shortcomings in the schools. If the college raises its requisitions for admission, the schools sometimes feel that there is an attempt to impose on them work which the college ought to do for itself; and when boys come to college imperfectly prepared in Greek or Latin declensions and conjugations, or in decimal fractions, the college complains that school work is unfairly imposed on it, which it has no time or means to perform. Now this state of things will never cease, until teachers on both sides are agreed at least upon the general principle of division of labor between colleges and schools. One thing, however, is beyond dispute: if we assume that there is to be progress in the higher learning in this country, it follows that there must be equal progress in our schools. There is an immense gap between the best American college and the university of Berlin. But there is a gap of exactly the same width between an American High School and a Prussian gymnasium, and you cannot bridge over the former gap unless at the same time and with equal care you bridge over the latter. If the universities of Germany could be brought to America to-morrow, and put in the place of our present colleges, with all their professors changed to English-speaking Yankees, they would die for want of support, like so many trees cut off from their roots. Unless the German schools were imported also, the universities would be so much useless lumber. I would here remark that I am not one of those who believe in the importation of either a German or an English university to meet our wants. The prominent features of the English university, those by which we are accustomed to recognize it, are at this moment exposed to

such severe criticism at home, that it would seem at least hazardous to import a system upon which reformers are at work even more vigorously than they are upon our own. And before the German university could be domesticated here, with its entire freedom from restraint and from all attempt to regulate directly either the nature or the amount of a pupil's study, the institutions of our country would require a change which the most ardent university reformer would shrink from suggesting. In Germany, the absence of direct control over the university studies — which strikes some foreigners with horror, and others with sentimental enthusiasm — is more than made up by indirect government control, which is rigid and effective, though distant. In fact, there is no country in the world where such tangible rewards for scholarship and learning are held out for the competition of students at the universities as are offered in Germany. It is not by importing a university system, but by slowly developing our own college system, and by adding to it whatever single advantages are presented by various foreign systems, that we can hope to see an American university established which shall be worthy of the name.

But although I believe that we can develop from our own resources a form of university better suited to our wants than either the English or the German would be if imported bodily, I am sure that *in some way* the standard of our scholarship is to be raised to a level with that of Europe, — not in this generation, perhaps not in the next; but it will be done in time. And it must be done by slow and steady progress, and by the united efforts of the whole body of our teachers. There must be no uncertainty and no dispute between teachers in different institutions as to the great end to be attained, however much there may be as to the details. I will here refer for an illustration to the relation of a German school to a German university, not with a view of recommending the details of either, but because there we find the highest standard of scholarship, and also the most perfect understanding as to the exact province of the public school and the university.

I have here one of the latest programmes of the Friedrichs-Werdersche Gymnasium at Berlin, one of the best Prussian schools, where Tump was once Professor, and where the present Prime Minister of

Prussia was educated. It appears from the report of the Director (Dr. Edward Bonnell, well known as a Latin scholar, especially for his labors in Quintilian), that the pupils receive twenty-eight or thirty hours instruction in each week, of which time less than a half is occupied with Latin and Greek.* The full course of study now occupies nine years (the pupils generally leaving school when they are nineteen), although very many shorten the time by doing extra work. Latin is begun in the first year, and Greek in the third. During the first four years Nepos and Phædrus are the only Latin authors mentioned by name in the course of study; but extensive compilations and readers are used from the first. During the last five years, however, and often in less time, the following Latin is read: Cæsar (7 books of Gallic War); Virgil's *Æneid* and some *Eclogues*; the whole of Curtius; Cicero (4 orations against Catiline; against Verres, book V.; orations for the Manilian Law, for Archias, for Roscius of Ameria, for Milo; *De Oratore*, 2 books; *De Officiis*, 3 books; and some *Epistles*); Tacitus (3 books of *Histories*); Horace (4 books of *Odes*); Quintilian (book 10th); several books of Livy; and parts of Ovid. In Greek the course for the last five years (or less) includes 20 books of the *Iliad*, 18 of the *Odyssey*, 6 books of the *Anabasis*, 1 book of Thucydides, 7 orations of Demosthenes, the *Antigone* of Sophocles; and the *Apology*, *Crito*, *Protagoras*, and 2 books of the *Republic*, of Plato. Mathematics occupy three and a half hours a week, for nine years; Physics or Natural Science two hours a week for five years; History and Geography three hours a week for eight years and four hours for one year. Other studies, as Hebrew and Drawing, are optional; and many pupils accomplish much more work than is required in the regular studies.

Those who have passed this course of school-study are admitted, after a severe examination, to the university. Most of the instruction there is adapted to those who bring this amount of preparation, and it would be of no use to those who were merely fitted to enter an American College. When we see the rich choice of lec-

* I speak especially of these departments, because I am better acquainted with the manner of teaching in them, in the gymnasium and in the university.

tures in every department of science which is offered in the university programmes, — a choice so rich that even the specialist finds it hard to select from those offered in his speciality, — and reflect that this would be as impossible in Germany as in America, were it not for the schools, we feel that no small portion of our thanks should be given to the system of government supervision, which has filled Germany with public schools of so high a character.

The relation here described will show us what must be the position of the American school when our standard of university education is raised to the point at which we should aim; and (in my opinion) no teacher in our country does his duty, either in the college or in the school, who does not exert all his influence in favor of raising both our colleges and our schools to the highest rank that has ever been attained anywhere, no matter if ultimate success seems impossible in this, or even in the next, generation.

What now should be the main principle on which we should aim to distribute our work between the school and the university? This is, after all, the great practical question. It seems to me that it is this: it is not the business of a university to teach the *elements* of any science which can be begun and studied to advantage at school. The simplest doctrines of economy teach us that it is a wicked waste of our resources to use a costly and complicated machine for work which a cheaper and simpler one will do as well, or better. Now a university is an expensive institution, and instruction costs three or four times as much there as it does in a school. Harvard College in 1867-68 spent about \$100,000 in educating four hundred and seventy-nine undergraduates, or more than two hundred dollars on each. This includes \$20,000 paid directly to meritorious students in the shape of scholarships, prizes, and gifts, amounting to more than two-fifths of the tuition fees; but it takes no account of property valued at more than \$1,000,000, in the form of buildings, land, and library, of which the students enjoyed the use. It is only by help of its endowments that the college can afford to give this education for less than half of its actual cost. Now on what principle can we justify the use of an institution thus endowed and thus costly, even with the most economical management, in teaching boys to construe Xenophon or

Livy, to perform the common processes of Geometry, Trigonometry, or Algebra, to translate such an easy and common language as French? How much better could all these things be taught to small classes in schools, under the ordinary school discipline, than to large classes in college, where the strict personal attention required in all elementary instruction is absolutely impossible. And it is only by eliminating such elementary matters gradually from the college studies, that we can ever hope to find time in college to teach the higher branches of science. Of course there are some studies which, from their nature, or from the small number who pursue them, ought to be confined to the college. Such are languages like Sanskrit or Arabic, the higher metaphysical studies, and those parts of physical science which involve unsettled theories or require expensive apparatus. There is no department of study which does not supply material for more than all the time which would remain to it in college, after all the elementary instruction should be removed to the schools. And thus only can the college answer the demand which its supporters and benefactors have a right to make upon it, that it shall be a place where (as President Walker expressed it sixteen years ago) "the last word that had been uttered in any department shall be made accessible to students." Thus only can a college become a real engine for the advancement of science, and not a mere receptacle for what has been discovered elsewhere. It is therefore, as I think, the duty of every one concerned in the management of our High schools to welcome every addition to the course of preparation for college, and even to urge on the colleges as a duty, that more and more work shall be given to the schools to do.

I know what will be the first answer to all this. The parents, it will be said, will not allow their boys time enough even for the slight preparation now required, much less for a higher and broader one. This is a serious difficulty (if it exists), and one which both schools and colleges must combine to meet. It is obvious that so fundamental a question as this must be settled on some general principle, and cannot be left to so uncertain a tribunal as the whim of the average American citizen. Here it is clearly the duty of the college to suggest the remedy, and for the schools to apply it. We may perhaps take a hint from the English colleges and the

much abused English schools, which, at all events, seem to have solved this problem. The requisitions for matriculation at most of the colleges at Oxford and Cambridge are ridiculously low; less than half the amount of Latin, Greek, and Mathematics required for admission to our best colleges is enough to ensure matriculation. An English father who insisted on having his son sent to college at a given age, regardless of his knowledge, could be gratified much more easily than such a man could be here. But what would it amount to? Such a boy would enter, it is true, "without condition," but he would find himself as far removed from all the real advantages of the place as if he were in New Zealand. He would soon find that the real instruction of the place was not for him, and if he should attempt to attend the lectures which the real students hear in the best colleges, he would be unable to comprehend them; and he would settle down into his natural place among the *polloi*, and aim merely at a "pass degree," that is, at escaping the positive disgrace of being "plucked" at the final examination. This sounds as if the system might do somebody injustice; but the truth is, the matter is so thoroughly understood that nobody in England is deceived by the empty show of being admitted to college "clear," which takes in so many in this country. Above all, nobody mistakes the whitewash which such a young man rubs from the college walls (to use President Quincy's phrase), for the polish of real culture. How is it now with the real students, for whom all the better instruction is provided, and to whose attainments the final examination for honors is adapted? They know that the minimum required for admission is meant only for dunces (both natural and self-made), and they remain at school longer, or study harder while they are there, or both; and most of them carry studies at school far beyond the standard set by the university for a pass degree. They pursue a course which enables them to profit by the best instruction afforded at the university; and although their time has hitherto been too much wasted in writing bad verses, this is an evil which is rapidly diminishing in England, and at least need not be copied by us here. Now every teacher in England can show these two courses to any parent who complains of want of time to prepare his son for college; and the father can

take his choice. In fact, the *real* standard of admission (for *scholars*) to the best English colleges is set, *by the schools themselves*, far above the low *nominal* standard set by the colleges, and is (as it should be) too high to be reasonably required of every applicant without regard to his ability.

To apply this to our own case: when it is once understood by teachers and parents (as it soon must be) that our colleges recognize two entirely distinct classes of students, one studying for a degree which means something, and another asking merely for a certificate of attendance at college, — one for whom the highest and best instruction is to be provided, for which the other is confessedly incompetent, — and when also it is understood by parents that their sons can be fitted for the lower course by superficial study and judicious cramming, while the other requires a preparation which can be given only by careful and scientific study, and by such diligence as no teacher can compel; then we shall silence the complaint of want of time to prepare for college. We need not, I trust we shall not, under any circumstances, allow such idleness and ignorance as is tolerated at the English universities; the lower course which I have in mind would not differ much from that which the lower half of one of our college classes now practically follows. But this is even now becoming more and more distinct every year from that followed by the real scholars; and as the standard is raised, the distinction will be more and more marked. The high-water mark here is easily raised by artificial means, but the low-water mark is almost immovable. There must always be a class of students in our colleges, as there always is even in the first universities of Europe, who will not or cannot raise themselves above the lowest mediocrity. It is important to have an education provided for these which shall be within their comprehension; but on no account must they be allowed to affect the standard of scholarship, or to deprive real scholars of one of the privileges of the place. Above all, no advance in scholarship can ever be made until we abandon forever the pernicious doctrine, that the instruction and the standard of scholarship in a college should be adapted to the middle rather than to the top of a class. This democratic doctrine — an absurd attempt to apply a system

of equal rights to scholarship and learning — has hitherto done more than all else combined to keep down the standard of college scholarship in this country; and it is a disgrace to us that we are just waking up to the truth, that a democracy of this kind must continue to degenerate (like the imaginary democracy of Plato's state) until it is left exposed to the tyranny of low pretenders whom it has itself encouraged. It is a most laudable ambition to educate the mass of the people, and our own State may well be proud of her success in this, perhaps the grandest of her undertakings; but we must not be blinded to the dangers to which this ambition exposes us. An education which is to permeate the masses of a great people must of necessity have a lower standard than the more aristocratic education of Europe. It is better that it should be so; for raising its standard would at once put it beyond the reach of many who now profit by it. But if we devote all our energy to this universal education, the higher education is neglected, and insensibly a low standard of scholarship is established and approved in our higher institutions of learning, under the specious pretext that it is better for them to educate a thousand moderately than ten thoroughly. The grain of truth in this saying — with that contained in the other equally common remark, that American colleges are made to educate citizens for the state — has done more to divert men's minds from the true issue in this discussion than anything else. If now, on this democratic principle, a mixed body of students are all taught together, as has so long been the practice in American colleges, the more thorough you make the education of the thousand, the less thorough becomes the education of the ten. Above all, the teaching of teachers is shamefully neglected under such a system, and either degenerates, or (what is the same thing) does not keep pace with the age; and teachers of the higher branches of science are compelled either to prepare themselves for their profession by studies for which no provision is made in this country, and on which they must spend much time and often great expense, or else to undertake their work unprepared, and thus aid in depressing still further a standard of scholarship which is even now disgracefully low.

This dangerous tendency must be counteracted by raising our colleges to a position in which they can use their endowments and their learning in giving the highest instruction in all departments to those who are fitted to enjoy such advantages. In reply to those who tell us — some exultingly, others despondently — that there is no call for such learning in this country, after reminding them that there is quite as little call for Christianity in Central Africa, I would merely point to the increasing throng of American students at all the best universities of Europe, who are seeking a higher education than they can find at home. These alone would be sufficient to support an American university, if one were founded with advantages equal to those now offered in Europe. But whenever the colleges take a step forward, they must be supported at once by the High schools, which must take a step of equal length. This will of course require the time of school study to be lengthened, and this is not to be regretted; but no slight part of the time might be saved by improvements in the system of study which every teacher ought to search for and adopt. I have no time to speak of this important question here; and I can merely allude to another question which may be asked, — How far ought the State to provide free education in schools of so much higher grade than our present High schools? I would say on this point, let us have the higher schools at all hazards; free schools, if they can be supported entirely by the State; partially free, if the expense prove an obstacle to their establishment. It is, I suppose, well known that the so-called public schools of Germany, except the most elementary, are partly supported by a small tuition fee, which in a Berlin gymnasium amounts to about twenty dollars a year. In our smaller towns, where the majority of the scholars in the high schools are not studying for the university, it would be more difficult to provide for the higher education of a few than it would be in cities; and here, perhaps, the difficulty would be best met by a small tuition fee, which might relieve many pupils from the necessity of going elsewhere for their preparation for college.

• It is sometimes asked whether the higher instruction will not ultimately be given by a new class of universities, for which our present colleges will prepare students, so that the present position

of the schools will not be affected by any advance in scholarship. The whole question of the future American university is still involved in great obscurity; but if there is anything about which I feel certain with regard to it, it is this: that the department which will correspond to the German "Philosophical Faculty" will be developed chiefly from the undergraduate department of our present colleges. This has the endowments, which would be wasted even more unprofitably than at present, if they were used only for elementary education; this has the traditional glory, and it would be hard to transfer the associations of college life to any other institution; above all, the college would always be an unfit as well as an expensive place for preparing boys (must I perhaps add girls?) for the real university studies. Few parents could or would afford to add a university education to a college course, and support their sons away from home at great expense at least seven years.

In conclusion, I would say that I am not speaking of an extended course in a few departments of learning, but of one in every department in which schools can give instruction. As a university should be a place where every department of science should be raised to the highest attainable point, so the preparatory school should lay the solid foundation in all departments (not merely in two or three) without which no superstructure can be securely raised. The main principle must be kept steadily in view, that we cannot afford to use our universities to teach the *elements* of any science, but these must be taught in the schools.

Every year's experience gives me greater hope that this is not a mere vision in the clouds. And I cannot help adding that the inaugural address delivered at Cambridge this very week (since the preceding pages were written) has strengthened this hope and made its accomplishment seem nearer. All that is needed to secure its accomplishment is a steady purpose, and the earnest co-operation of the whole body of teachers, both in our colleges and in our schools.

SCHOOL-HOUSES.

THERE is no particular in connection with school affairs, as to which public opinion needs a more thorough renovation, than the character of the school-houses that it is inducing our cities and towns to build.

The pride of New England in her public school system has naturally begotten a corresponding pride in the structures in which that system finds its practical exemplification. When any distinguished stranger has visited us, to cast a glance at our people, our territory and our "institutions," the organization that has towered up in glorious proportions before the eyes of nine-tenths of our public functionaries, as the object most worthy of his attention under the last head, has been "The Public Schools." Perhaps the school children have been ranged in two rows up and down some leafy mall or grassy common, for him to pass between, and receive the greetings of the bright-eyed, clean-dressed boys and girls. Then he must be taken to some school-house, representative embodiment of the most advanced ideas on the subject, that he may see the boys and girls at their tasks, illustrating the noble democracy and excellence of the grand popular institution. Of course it would be an anomaly full of covert satire, to boast of an organization as something precious beyond measure to the hearts of the people, because one of the strongest bulwarks of liberty and most effective instrumentalities of progress, and have no splendid edifices to exhibit, that shall adequately symbolize the intensity of the public regard for that organization. Here we have one of the primary incentives to the erection of expensive school-houses.

A second cogent instigation to lavish expense in this direction has been this. The pride I speak of has been eager for visible concrete symbols of itself on which to gaze in affectionate and admiring complacency. It has not been satisfied to plume itself on the mere consciousness of the progress of the good work, nor on successes manifested in the general intelligence, prosperity and elevation of the people. But the patriotic tax-payer, as he passes along the street, must be confronted on his way by a stately and

comely structure, whose proportions are a similitude of his inward feeling, just as "in a glass, face answereth unto face."

And once more, pride is the prolific parent of jealous emulations. When a fine new school-house is built among us, the newspapers chronicle the incidents of its dedication, "spread-eagle" speeches and all, and append elaborate descriptions of its architecture and arrangements. Prominent educational officials, in the honest feeling that all this is legitimate, and in the right direction for good to the great cause, take up the story and blazon it anew. These glowing records stimulate some other city or town, in need of a new school-house, to attempt to rival the expenditure and achievements of those whose patriotic devotion has been so loudly trumpeted. And thus the competition has gone on, until from sixty to seventy thousand dollars is now the minimum cost of a High or Grammar school-house in our more wealthy and populous communities, the expense, indeed, very often amounting to double that sum.

But I hear some one saying in rejoinder, "What jaundiced, invidious carping is this! What a parade of false premises and a studied silence as to the real motives that actuate our communities to build their costly school-houses! What a contemptible aspersion of one of the channels through which the truest and healthiest sentiment of New England is finding expression! Let the truth be spoken! This comes not from the instigations of pride. It is not through a spirit of jealous emulation. But it is because our admirable schools can be properly accommodated only in admirable buildings."

I wish, with all my heart, that I could be convicted of injustice in what I have said: I would bear the reproach with gladness. I fear, however, that I can easily prove myself to be too sadly near the truth.

For if the good of the scholars were the leading incentive to the erection of massive and imposing school-houses, the character of their interior arrangements, and the number and variety of the helps furnished for the purpose of directly aiding the work of instruction in them, would correspond in every way to the cost of the buildings themselves. It would be fair to say that at least ten per cent of what is put into a school building should be expended in

supplying it with necessities and facilities for the daily operations of the school. Thus, if the building has cost a hundred thousand dollars, ten thousand dollars should be invested in maps, charts, philosophical instruments, illustrative cabinets, books of reference, and other provisions to second the teachers' efforts, and render them in the highest degree effective, no less a proportion, in view of these vital purposes, would justify the assumption that such vast amounts are put into brick and mortar for the good of the scholars alone.

Now what are the facts in this particular? What is the actual comparison of the cost of apparatus, maps, cabinets, etc., to facilitate the work of our splendidly housed schools, with that of the houses themselves? I will not attempt to draw it. The result, I know in advance, would be too painfully humiliating. The best furnished schools have nothing to boast of in this regard, while the meagre poverty of the great majority forces reflections on the mind of the discriminating observer, that are anything but complimentary to the public opinion, which is content to put its schools into the naked rooms of a great edifice, and then to go complacently around exclaiming, "See what a splendid school-house we have built!" Just here we find the most crying vice and defect in the working of our public school system: that so little is done, comparatively speaking, to equip our teachers fully for their labors. How many teachers are there, of the intelligent, cultivated class, who know what a thoroughly furnished school-room is, who can say that they have everything desirable? How many can even say that they have everything they actually need? How many, indeed, and that in costly school-houses, it may be, are so stinted and trammelled as to be worn down more by vexation than by toil? One is often led to say, in view of these things, Oh that a part of the money invested in the mere ornamentation of the outside of school-houses, had been saved for the essential uses of the inside!

Well, what is the obvious deduction from all this? That the expensive school-houses are built to glorify the children — or their fathers.

But more: If the public opinion that builds such houses were healthy and laudable, it would be just and equable in its manifestations. It would be uneasy unless all the children were expensively

housed as well as a part of them. But, on the contrary, it is the singular characteristic of most New England communities in this regard, that when they have reared one or two grand edifices, capable of accommodating, perhaps, only a small fraction of the whole number of children, they are willing to do no more. The rest must get along as they can, working on in the old tumble-down houses built by a former generation, or elsewhere, under similar disadvantages. And if it be a growing locality, and the number of children is rapidly increasing, the school committee must extemporize school-rooms in stores, halls, sheds, garrets, and what not, according to their opportunity. All very well! The school machinery will grind along at some rate or other, and the parts where there is friction will be in by-ways, out of sight. The grand edifices on the main streets symbolize the value that the people set on the system, and they are in plain view. All very well! Some time or other another great house will be built!

The obvious deduction once more. Is it the children who are specially thought of, when these grand houses are erected?

But to approach the subject in another form. The present rage for large and costly school-houses is extremely injurious, because it tends to limit the accommodations given to our schools. I do not know a single city or town, of any considerable size, in which all the schools are comfortably and conveniently housed. On the contrary, the contrast, in the most between the palatial structures enjoyed by a part of the schools, and the wretched, makeshift apartments to which others are condemned, is as disgraceful as it is unjust and harmful. Yet, when this contrast is commented on, the ready answer is, "Oh, we are anxious to do equally well by all. But the school-houses we have lately built have cost so much that the load of taxation would be intolerable, if we should attempt anything more of the kind at present." Yes, there is where the strain is felt in this ill-considered economy. Each grand school-house represents such a load of taxation, that the children not so favored by it must be content with miserable accommodations, perhaps through all their school career.

And is such lavish expenditure necessary in any particular? Is it indispensable for the illustration of any point in convenience

comfort, health or æsthetic culture? Not at all. Handsome school edifices are desirable on many accounts. But the imposing proportions and costly finish that now so often distinguish them, far exceed every reasonable demand in the direction of symmetry and beauty. And when the points that have been commented on are taken into view,—the disgraceful buildings in which many of the schools are compelled to be holden, and the poverty-stricken lack of facilities for the work of instruction that characterizes the interiors of a still larger number,—our costly houses, instead of being an honor, are a reproach to the communities that build them.

Let the tendency to this extravagance be checked. Let better counsels, more comprehensive views, prevail. The city of Worcester is setting a noble example in this regard. It is building capacious and convenient houses, to accommodate from four hundred and fifty to five hundred scholars, *for less than half the money* that other cities are spending to secure the same number of sittings. It is limiting the cost of each of these structures to *thirty thousand dollars*. And it is proving that this can be done at no sacrifice of strength, nor of the essentials of symmetry and comeliness. True, the houses already built on this economical plan, are in some respects painful failures. Some of them are, in vulgar parlance, so *squat*, that they seem as though an envious earthquake had rent the ground asunder beneath them, and swallowed up one story; while the last built has a hall so contracted in height, in comparison with its other dimensions, that nothing short of taking the windows entirely out will suffice to ventilate it when filled with company. But these are the blunders of the architect. They are remediable. They do not vitiate the original undertaking, and so, for every dollar spent in Worcester on this class of school buildings, there is, in comparison with other cities, a double return. The result is, that the people are encouraged to endeavor to accommodate in like manner all the children. The taxation for a single house is not so great as to weigh like a millstone about their necks. The prospect for the future is not clouded and dismal; and will not other cities reform their customs and imitate this example? Will they not realize the fact that to build school-houses at a lavish, unnecessary expense, that will accommodate only a part of their schools,

while others must remain miserably cared for, makes every such structure a monument of folly and injustice, and not of public spirit and self-sacrifice?

H. F. H.

METHODS OF TEACHING CLASSICAL LANGUAGES

BY J. R. JAQUES.

WHILE we would make the learning of inflections the work of the first term, — first in time and first in importance, — not mingling with them any exceptions, irregular and dialectic forms, we would not, by any means, confine the mind to mere memorizing. Every form of inflection should, so far as possible, be discussed and explained. Its historic and euphonic origin should be discussed, that the mind may begin to organize its knowledge into scientific order. Philosophy cannot be introduced too early.

The *elements* of the grand science of Language may be gradually unfolded, even the first term; and that fundamental department of linguistic science called phonology — or the science of the universal alphabet — must, in its germs, be implanted in the student's mind from the very first, as affording the only cluw to traverse the maze of Greek declension and conjugation with pleasure and profit. With the light of this science, the student's pathway may be made bright, and his work invested with a charm. Few students will fail to be fascinated with the new realms of thought thus opening before them.

The classification of consonants in Greek, with all their changes, — bewildering in number, but beautiful in their law, — must be mastered, reviewed, and wrought into the very fibre of the mind. Nor should the teacher stop with what he finds in the Greek grammar. He should go out botanizing in the wide fields of Phonology, bringing back fairest bouquets to deck the homely *tables* of inflections. He should linger in the company of Bopp, and Heyse, and Pott, Max Müller, and Dwight, and a host of other lights of the New Philology, till he is all phosphorescent, and come to the recitation room with floods of light to illuminate every dark point.

56 METHOD OF TEACHING CLASSICAL LANGUAGES.

The whole doctrine of consonantal classification, and interchange of cognate letters, must be made clear and beautiful as the sun-beam, and impressed upon the mind as the magic key of universal language. The terms labials, linguals, gutturals, mutes and liquids, sibilants and spirants, and the like, must be made all redolent of meaning, and familiar as household words.

To facilitate this work, the English may be called into use, as furnishing illustrative examples, and sometimes illustrative amusement. For instance, the statement that "a lingual before sigma or 's' is dropped," is a very abstract statement, till attention is called to the same tendency in English, and the pupil tries to pronounce,

"He thrusts his fists against the posts,
And still insists he sees the ghosts."

On the same principle, changing 'months' to 'muns,' and 'clothes-pins' to 'clos-pins.' Thus the principle of metathesis is far less abstract when the pupil attempts to pronounce, "A big black bug's blood," or "six sleek, slim saplings"; or hears the story of the excited member of Congress, who rose and addressed "Mr. Speaker" as "*Sister Meeker*"! and wishing to say, in his own dialect, "the Oliver Ellsworth has bust her biler," said "the Elliver Ollsworth has biled her buster!" [Enclitics may be explained by such words as *gim me*, imbibe, cupboard, etc.] The rule that "successive syllables should not begin with a rough mute or aspirate" comes very near home when he finds himself changing 'the other' into 't'other,' and so on almost endlessly.

Thus, out of the very tendencies of correct English, or dialectic English, or vulgar English, the vigilant teacher may cull a *whole museum* of illustrative examples to explain the workings of latent laws in language, which are the foundation of the consonantal and vowel changes in Greek and Latin declension and conjugation. Moreover, this whole process throws a new light on our own language.

Finally, the whole array of inflections may be generalized, by grouping them, and showing how diverse forms, by historic growth and phonetic change, have sprung from one or more simple original forms.

The tables of inflections being thus learned, the student is pre-

pared to take up his reader, which should be copiously supplied with references to the grammar. The rules of Syntax can now be learned just as far and as fast as the successive lessons require. Little need be said of the character of the reader or mode of reading it, as we are fortunately well supplied with admirable readers, with select sentences fitted to illustrate the successive rules of Syntax. Here the Ollendorff system, in a modified form, has a place in a philosophical course of classic study, the exercise of translating from English to the foreign language being an indispensable part of the course.

We can pause only to state the conviction that, throughout the reading of preparatory books, the importance of repeating the principal parts of verbs can scarcely be exaggerated. They can be fully and forever learned by the student. And when the class comes to the reading of a classic author, to introduce variety, and to develop correct habits of study, there may be a variety of exercises on successive days, the students being advertised that on the morrow there will be a special exercise in some part of Syntax, or Etymology, or other matters of interest and profit. The whole field of Grammar, Philology, etc., may thus be traversed or unveiled in glimpses, in successive lessons.

The importance of translations by the ear, the exegesis of the text, in colloquial lectures and other elements of a perfect classic drill in the class-room, are acknowledged, but can not now be discussed.

Of course, it comes not within the province of this discussion to point out the importance of the auxiliary studies of classic Geography, History, Literature, Mythology, etc. These are all indispensable as a part of the apparatus for interpretation or exegesis; but our discussion to-day has to do with the methods of teaching the language itself.

There is no branch of education that calls into play a wider range of thought, investigation, qualifications, and accomplishments. But among the many branches of knowledge utilized by the classic instructor, none are more important than the Science of Language, or the "New Philology."

No scholar is ushered into the *penetralia* or *arcana* of Language

till he masters the law of consonant changes as formalized in what is called "Grimm's Law of Consonant Change." Not till the investigator knows and feels that the consonants are the thought-bearers of the root — the *constant quantity* in the word — does he step securely upon the enchanted ground of Comparative Philology. Not till he is mentally conscious, by almost a new instinct, of the change of the consonants into their cognate letters (when they change at all) does he see the beautiful and constant law that has developed the many languages and dialects of the Aryan or Indo-Germanic family.

The teacher must not then consider that he is fully equipped for his deep and wide work till he has a considerable knowledge, not only of the Greek and Latin, but of the German, French, Spanish and Italian, and the Sanskrit, so far as the roots are concerned. Nor can the Hebrew — though belonging to another linguistic stock, called the Semitic — be rejected, without sacrificing in the Hebrew grammatical system an important apparatus for the illustration of the laws of universal language.

The toil and time necessary for the acquisition of a lexical and grammatical knowledge of these languages are amply repaid by the brighter light they reflect upon our work, and by the fair flowers and fairer fruits they bring to refresh us in "digging among the roots"; for, as Goethe profoundly says, "He who knows nothing of foreign tongues, knows nothing of his own." So he who knows a foreign tongue, knows it not well till he learns others of the same family. — [*Journal of Proceedings of the Illinois State Teachers' Association.*]

THE CHINESE LANGUAGE.

If by grammar is meant a collection of rules exhibiting the change which nouns and adjectives undergo in declension, and verbs in conjugation, there is nothing corresponding to it in Chinese. Chinese stands alone in the whole realm of human speech as a type of languages without inflections, and it is for this reason, apart from its literary interest or practical importance,

that a study of Chinese becomes indispensable to every student of language. What a philosopher might imagine the earliest stage of language to have been, is presented to us in Chinese as an undeniable reality. What a careful analysis of other families of languages teaches us — viz : that all that is now purely formal in language was originally material — stands before us in Chinese, not as the result of a laborious induction, but as a simple fact. There was a language, and there is still a language, and a language spoken by a larger number of human beings than any other, in which we have no sign of gender, case, or number, no personal termination, no tenses or moods, no irregular nouns or defective verbs, nay, in which there is no outward distinction between a noun, an adjective, a verb, an adverb, and a participle. What a happy country China must be ! many a schoolboy would think, where there are no irregular verbs, no false quantities, no genders. But, alas ! there is no rose without thorns, and in spite of all its grammatical simplicity, Chinese — at least, the ancient classical Chinese — is known as one of the most difficult languages to learn. We quote from M. Stanislas Julien's work :

“ All Chinese characters are monosyllabic, independent and ‘inconjugable.’ They are not capable of receiving those inflections which in Greek and Latin show at a glance the gender, case, and number of nouns, the voice, tenses, moods, and persons of verbs. But, in spite of this absence of inflections, the Chinese language is to a well-informed ‘sinologue’ as clear and intelligible as those learned languages which abound in inflections. If it were otherwise, how could the innumerable works which it has produced in every branch of literature for more than 2,000 years, have been read and reproduced from century to century, since the first discovery of printing ? The Chinese began to print from woodcuts in 581 A. D. In the year 907 — 400 years before the discovery of printing in Europe — they introduced the use of stone for the same purpose, and in 1040 they invented movable types. Again, how could it now, under its modern form, called *kouan hoa*, or vulgar language, be spoken in China, Cochin China, Japan, Siam, Corea, and even in Thibet, by a population of more than four hundred and fifty millions, — that is to say, by half of the civilized world ?

How does a language, apparently so imperfect, answer, nevertheless, all purposes, and how has it enabled Chinese authors to treat in innumerable works of every scientific and literary subject that can interest the human mind? The answer is, that the inflections of nouns and verbs, which give so much precision to the ancient languages, find their equivalents to a certain degree in the collection of the Chinese characters, which, according to the position which they occupy in a sentence, and according to the words with which they are construed, can assume every possible grammatical value. The relative position of words determines their character, and imparts the requisite clearness both to the spoken and the written speech."

It has often been said that there is no language which in its grammatical features approaches so near the Chinese as English. M. Stanislas Julien himself, whenever he wishes to illustrate the peculiarities of Chinese, has recourse to English rather than to French, in order to give something like an approximate idea of a Chinese word or a Chinese sentence. If, however, we look more closely into these similarities between the Chinese and English, the latter belonging to a family of speech in which inflection had once reached its highest perfection, we shall find that they are apparent rather than real. They admit of an historical explanation, and they form in fact a new instance of the old rule that "extremes meet." Chinese and English form two opposite poles. The circle in the growth of language begins with Chinese and ends with English, as far as grammatical articulation is concerned. — *California Teacher*.

THEORIES OF THE TIDAL WAVE.

MOST of us suppose we know, in a general way, how the moon or sun draws a tidal wave after it. The explanation which nine hundred and ninety-nine (at least) out of every thousand would give runs much in this wise. Being nearer to the water immediately under her than to the earth's centre, the moon draws that water somewhat away from the earth; and again, being nearer to the earth's centre than to the water directly beyond, the moon

draws the earth away from that water. Thus, underneath the moon a heap of water is *raised*, and at the directly opposite point a heap of water is left (so to speak). So that were it not for the effects of friction, the water would assume a sort of egg-shaped figure, whose longest diameter would point directly towards the moon.

And not only is this the explanation which is invariably given in popular treatises, but scientific men of the utmost eminence have adopted it, as correctly exhibiting the general facts of the case. Recently, for example, when Mr. Adams had published his proof that the moon's motion is gradually becoming accelerated in a way which the lunar theory cannot account for, Mr. Delaunay, a leading French astronomer, endeavored to prove that in reality it is the earth's rotation which is diminishing, instead of the moon's motion which is increasing. He thought the tidal wave, continually checked by the earth's friction as it travels against the direction of her rotation, would act as a sort of "break," since its friction must, in turn, check the earth. And in discussing this matter, he took, as his fundamental axioms, the law of tidal motion commonly given in our books of geography and astronomy. This presently called up the Astronomer Royal, who gave a very clear and convincing demonstration that there would always be *low* water under the moon, if there were no friction.

But this is not all, nor is it even the most remarkable part of the case. Eminent as the Astronomer Royal deservedly is, and especially skilful as we know him to be in questions such as the one we are considering, yet if he were *solus contra mundum*, we might readily believe that there was some flaw in his reasoning, since, as every one knows, the most eminent mathematicians have sometimes misconceived the bearings of a perplexing problem.

But, as Mr. Airy himself pointed out, Newton and Laplace were both with him.

How is it that the views of Newton and Laplace, admittedly the very highest authorities which could be quoted, have found no place in our treatises of astronomy? Their views have never been disproved. In fact, as we have seen, one of the most eminent of our

mathematicians, in re-examining the question, has come to precisely the same conclusion. Can it be that the explanation actually given is preferred on account of its greater simplicity? That would be reasonable, if the two explanations were accordant, but they happen, unfortunately, to be wholly opposed to each other, and therefore one of them must be false. Those who teach us our geography and astronomy ought to look to this.

The worst of it is, that the most of consequences which astronomers ascribe to the action of the tidal wave depend on the choice we make between the rival theories. If the ordinary view is right, the moon's motion is continually being hastened by the attraction of the bulging tidal wave, and this hastening will bring the moon into a smaller and smaller orbit, until at last she will be brought into contact with the earth, unless, as Professor Alexander Herschel suggests, she should crumble under the increased effects of the earth's action, and so come to form a ring of fragments around our globe. If, however, the other view is right, the moon's motion will be continually retarded, her orbit will gradually widen out, and some day, presumably, we shall lose her altogether. This retarding and hastening refer to the rate at which the moon completes her revolutions round the earth. As a matter of fact, paradoxical as it sounds, it is a continual process of retarding which eventually hastens the moon's motion. Every check on the moon's motion gives the earth an increased pull on her, and this pull adds more to her velocity than she lost by the check. And *vice versa*.

Again, if the views commonly given are just, the earth's friction should cause the tidal wave to lag behind its true place. But if Newton, Laplace, and Airy are right, then, to use the words of the last-named astronomer, "the effect of friction will be to accelerate the time of each individual tide."

We apprehend that there is room for improvement in the current account of the tides. Many eminent men, as Whewell, Lubbock, and Haughton, have discussed in the most elaborate and skillful manner the laws according to which the actual tidal wave travels along the great sea-paths. But as yet no one has tried to reconcile the theory of Newton, which may be called the dynamical

theory of the tides, with that commonly given in our books, which may be called the statical theory. — *London Spectator*.

THE UNITARY SYSTEM OF ANALYSIS.

THIS system is that chiefly used in solving questions in mental arithmetic. It is doubtless well adapted to beginners in the study of arithmetic; but we do not think it should be exclusively or chiefly used in the instruction of more advanced classes. At best, it is the hands-and-knees method, thoroughly safe, but cumbersome and slow. Mature thinking should be an aim in view as a result of mental processes; but mature thinking should be direct and comprehensive. Roundabout reasoning and wordy explanations do not tend to make thought quick and expression concise. By this wire-drawn syllogistic method, the pupil has little, if any, stimulus to original thinking, for the order of thinking is prescribed for him to the exclusion of all original methods. All the pupils in a class must work their examples by one and the same formula. This restriction of thought and expression to a single path can yield but a narrow discipline.

On a recent visit to Canning we were informed that one of the pupils of the school, some ten years of age, showed a marked originality in his methods of solving arithmetical questions. Relations not obvious are quickly discovered by him, and from his power of comprehension he masters examples rather by composition than decomposition. This power of getting at the centre of a problem, whence all its relations are seen comprehensively, should be the thing aimed at, rather than the mere ability to plod a beaten path around the circumference. We do not say a word against the employment of "unitary" analysis; but that this method, and this only, should be used, and used evermore, is altogether too much of a good thing. Any and every analysis has its limiting period, when the elements which it discovers should be comprehended as something complex indeed, yet single to the conception and to the use of the intellect, so that they may be employed as a single element in a higher analysis.—*Nova Scotia Journal of Education*.

Editor's Department.

THE BUREAU OF EDUCATION.

THE Washington correspondent of the *Boston Daily Advertiser*, "Dixon," says, through the columns of that journal :

"The Bureau of Education is in great danger of being overthrown, and can hardly be saved, except by vigilance on the part of the friends of education throughout the country. The feeling is pretty widely prevalent among members of Congress that the present head of the establishment, Commissioner Barnard, has not been a success, but has proved unequal to the task of organizing the bureau, and making it meet the requirements of the time. The committee on appropriations not only refuse to make provision for carrying on his work, but show a decided disposition to repeal the law creating the bureau, and a number of strong members of Congress indicate a purpose to support this action of the committee. Some other members will try hard to save the bureau, and have the President give it a new head, while others favor the creation of a new bureau or department, embracing education, freedmen's affairs and statistics."

This state of things is to be regretted. The recognition of the educational interests of the country by the National Government was regarded as a great step onward. A Department or Bureau of Education once established, there was no doubt in regard to its usefulness or permanency. There seems, however, to have been some disappointment in respect to the workings of this department, and every year brings up the question of its continuance.

The importance and necessity of this department is conceded by all who have given due attention to the subject. The influence that goes forth from the fact that the government thus brings into greater prominence the educational interests of the country, more, vastly more, than repays the necessary expenditure. Though the establishment of systems of education is the duty of individual States, and the national government has no power to shape these systems by general or special laws, still it can collect and impart information, and by a judicious use of the means at its disposal, do much to deepen the interest in the education of the people, and lead to the adoption of the best systems of public instruction.

From our point of view there is nothing of greater public concern, nothing more worthy the careful attention of legislators, nothing that justifies a more generous expenditure of money, than the education of the rising generation. The advancement of all the various interests of the nation depends upon the quantity and quality of this education. Consider what is necessary to enable a man to vote understandingly, to perform the many duties that devolve upon him as a citizen; what intelligence is demanded in all the departments of productive labor; and it becomes only the more clear that the one great interest

of the nation is the education of its people. Any neglect of this imperils its very existence. The foundations of a free republic are the intelligence and virtue of its citizens. While, therefore, towns, cities, and States are spending millions to prepare the future citizen for the responsibilities he is to assume, will the national government demur at spending a few thousands to aid them in this all-important work?

There never was a time in the history of the country, when the influence of the national government was more needed in this direction than now; never a time when it could accomplish so much. Education must be an important element in that reconstruction which is necessary to make the States really one. New States are growing up, as yet wholly under the control of the national government, what shall be their educational systems? The tide of immigration sets in upon both coasts. The old world is pouring out its surplus population upon us. What but education can assimilate these differing peoples, and make them one with us in upholding the institutions of civil and religious liberty?

This is no time for Congress to hold back. The first act of the new Tennessee Legislature was to abolish the school system which was working so well, and accomplishing so much in that State. Will not the abolition of the Bureau of Education be a step in the same direction, and give moral aid and comfort to the enemies of universal education? Let not the good cause be thus wounded in the house of its friends. Rather let this Bureau be more firmly established, more generously supported, and made more vigorously to subserve the interests of the nation.

If the present commissioner is not the right man for the place, somewhere in the country the right man can be found. Mr. Barnard's qualifications were generally recognized. There was certainly no man who had labored more earnestly in the educational field, who had so thorough a knowledge of educational institutions and systems. He has had great difficulties to contend with, and, it may be, has not accomplished all he desired to accomplish, or all that was expected of him. We believe he has endeavored faithfully to discharge the duties of his office, and we will leave the question of his success to be decided by those who are in possession of all the facts. But the question in regard to the continuance of this department is entirely independent of the present administration of its affairs, and is to be decided, not by what it has done or is now doing, but by what it can and will do.

TO DELINQUENT SUBSCRIBERS.

DEAR FRIENDS:

You will please excuse me, if I address a few words to you personally. I have for some time visited you monthly, and given you the best I had to give. Every visit has been a matter of serious importance, and has been the occasion of much expense to myself. I have paid large sums to Rice, Kendall & Co., Water street, Boston, for material to enable me to make myself presentable, and large sums, also, to A. Mudge & Son, School Street, for the very

handsome manner in which they have fitted that material to my form, and made it instinct with my spirit.

It cuts me to the heart that I still owe these worthy gentlemen for material and labor. You promised me that you would give me a stipulated sum annually, if I would visit you monthly. I have performed my part of the contract; but I am sorry to say that you have not performed yours. Had you, I should now be able to look these gentlemen in the face with the proud consciousness that I had done my duty to them as they to me.

I have no resource but to appeal to you to deal justly with me. I have thus far led an honorable life, meeting promptly all my engagements. Let not my fair fame be tarnished. Give me what is lawfully my own. Trusting in your honor, I have assumed liabilities which must be met.

Two hundred and seventeen of you owe me \$1.50 each, a small sum to you individually, but a large one to me. That you are thus indebted, I attribute solely to your forgetfulness. I have no hard feelings towards you, as I am confident the sum due will be promptly remitted. I would suggest that you also remit \$1.50 additional, for the current year.

Sixty-eight of you owe me \$3.00 each; *thirty-eight* of you, \$4.50 each; *seventeen* of you, \$6.00 each; *two* of you, \$7.50 each, and *fourteen* of you, \$9.00 each. Now what to say to you, I hardly know. You think me very foolish to allow you to get so much in debt. I think so too. But to tell the truth, my confidence in teachers has been very great. I have been loath to believe there was one who did not mean to deal honestly with me, and the very thought of expressing any distrust by ceasing to visit you has brought a blush to my cheeks.

I beg you now to be fair and honest. Show me that my confidence in you has not been misplaced. Remit by return mail the amount of the accompanying bill, and gladden the heart of your old friend.

Your devoted servant,

THE MASSACHUSETTS TEACHER.

MEETING OF CLASSICAL AND HIGH SCHOOL TEACHERS.

THE third Annual Meeting of the Massachusetts Association of Classical and High School Teachers will be held in Boston, in the Hall of the English High School-house, Bedford street, on Friday and Saturday, February 25th and 26th, 1870, commencing at 10.30 A. M.

SUBJECTS FOR DISCUSSION:

1. The pronunciation of Greek.
2. Relations of Classical Education to English Style and Literature.
3. To what extent, and in what way, ought instruction in derivation in languages to be given?
4. How far should the translation of a language conform to the original?
5. Points of difference between Latin and Greek.
6. Special claims of Greek as a study.

7. On the right interpretation of some grammatical symbols in Greek and Latin.

8. The effect upon the Preparatory Schools of the new requirements for admission to Harvard in Mathematics.

9. How much time ought to be given by those fitting for College to the study of Mathematics?

10. Ought Physics to be taught to those fitting for College?

A full attendance is requested. Essays taking not more than fifteen or twenty minutes in the reading will be presented by prominent educators on most of the topics. It is hoped also that each teacher will prepare himself to speak on some of the topics to be discussed.

S. H. TAYLOR, *President*.

W. F. BRADBURY, *Rec. Secretary*.

CORRECTION. — Mr. Gilman H. Tucker desires it stated that there was an error in his "Fireside Reading" in his advertisement last month. In the item, "A Glance Backward," the date should be 1868 instead of 1869. The same correction must be made in "The Statement of the Boston Masters."

INTELLIGENCE.

CHRISTOPHER G. LANGDELL has been confirmed as Dane Professor of Law in Harvard University.

EDWARD PLINY SEAVER has been confirmed as Assistant Professor of Mathematics in the same university.

GEORGE R. CHASE has been elected Principal of the Nantucket High School.

WILLIAM B. ALLEN, Superintendent of Schools in Beverly, has been elected Master of the Franklin Grammar School, Somerville.

LEWIS F. DUPEE, Principal of the Derby Academy, Hingham, succeeds Mr. Allen in Beverly.

JOHN T. GIBSON, recently principal of the Exeter High School, has been appointed Superintendent of Schools in Peru, Ill.

J. A. GILETT, formerly of the Cambridge High School, has been appointed Professor of Mathematics and Physics in the High Schools of New York. Salary, \$3,500.

THE COMMITTEE ON EDUCATION of the Massachusetts Legislature consists of Senators CLARK of Middlesex and MONROE of Norfolk, and Representatives PUTNAM of Boston, MILLS of Williamstown, BELL of Ipswich, MOORE of WARREN, and EDDY of Franklin.

The SCHOOL FOR DEAF MUTES, established by the City of Boston, at No. 11 Pemberton square, is in successful operation. There are about thirty scholars. Miss SARAH FULLER is principal, and Misses M. F. TRUE and E. L. BARTON are assistants. Salary of principal, \$1,000; of assistants, \$800.

EVENING HIGH SCHOOL. — The City of Boston has opened this winter an evening High School under the direction of Messrs. ANDERSON and WOOLSON of the English High School. It commenced with about one hundred and twenty-five pupils, from fifteen to thirty years of age. The studies are arithmetic, geometry, algebra, book-keeping, grammar, English literature, French, drawing, and natural philosophy. The greatest interest is manifested.

A MUSEUM OF ART. — A committee of the American Social Science Association, representatives of Harvard University, the Institute of Technology, Boston Athenæum, and Public Library, and other gentlemen, have had under consideration the subject of establishing a Museum of Art in Boston. The project has met with great favor. President Eliot, of Harvard University, President Rogers, of the Institute of Technology, John A. Lowell, Benjamin S. Rotch, Martin Brimmer, Otis Norcross, Samuel Elliot, William Endicott, jr., W. W. Greenough, F. E. Parker, H. P. Kidder, J. T. Bradlee, G. B. Emerson, and Colonel Perkins, have petitioned for an act of incorporation for the above object. This obtained, the City of Boston will be invited to give the lot of land on which the Coliseum stood as a site for the building to be erected, and measures will be at once taken to carry out the project. The works of art in possession of the institutions named above will probably be removed to the new building, and form the nucleus of the proposed collection.

MECHANICAL DRAWING. — The Board of Education having been instructed by the Legislature to consider the expediency of making provision by law for giving free instruction to men, women, and children in mechanical drawing, the subject has been referred to a committee, consisting of D. H. Mason, John D. Philbrick, G. G. Hubbard, and Joseph White. They have issued a circular, asking for observations on the following topics : —

1. The advantages which might be expected to result from the contemplated instruction in mechanical or industrial drawing.
2. The course and methods of instruction appropriate for the objects in view.
3. The models, casts, patterns, and other apparatus, necessary to be supplied.
4. The organization and supervision of the proposed drawing schools.
5. The best means of promoting among the people an interest in the subject of art education.
6. Any other remarks relating to the subject, not embraced in the foregoing topics.

GOV. CLAFLIN'S ADDRESS is an interesting and valuable State paper, business-like, full of wise suggestions. We give the portion devoted to Education : —

The people of the State will ever feel a deep interest in the cause of education. It concerns every citizen; and he should rejoice to share the responsibility of the trust. In its prosperity is the prosperity of the State.

If the character of the public instruction is high, then will that great multitude which go forth annually from our public schools, to engage in the ac-

tive duties of life, be fitted for the demands made upon them in this stirring and progressive age.

Every parent should feel that in the Common School System he can find that education for his child which will fit him, not only to discharge the daily duties of life, but also to enter into the higher walks of learning, if he desires to do so.

It must not be said of us, that we are falling behind other States in our methods of instruction, in the adaptation of our buildings, or any other means or instruments of education.

Though a great advance has been made in the last twenty-five years, still there is much room for improvement.

Our instructors must be more liberally paid, so that they may feel more encouragement to prepare themselves for the duties of their profession. Let them understand that their efforts to become successful teachers are fully appreciated and compensated by the community, and then there will be no further complaint of inefficiency on their part. The Normal Schools are doing much to elevate the standard of instruction, which was the main purpose of their establishment; but yet they can do very little towards supplying the great number of trained teachers that are required. Of the seven or eight thousand teachers in our public schools, probably not over one thousand have been trained in the Normal Schools. Several of the cities and some of the towns have established Training Schools, which are quite successful in aiding young persons in preparing to become teachers.

A large number of pupils leave the academies of the State annually, who for a longer or shorter period, are employed as teachers in our common schools. They would be much better prepared, if, before leaving school, they could have a course of training in the specific work of instruction, which is really an art to be learned.

The interests of education would be greatly promoted by a moderate appropriation from the School Fund to those academies which would establish training classes under suitable instructors, and such as have received the approbation of the Board of Education.

I find that there are in the State 270,000 persons between the ages of five and fifteen years. Of this number, 247,000 attend school a part of the year, — the average attendance in winter being 200,000, — showing a slight increase over former years.

The amount expended for instruction is \$3,123,886, an increase over last year of \$273,181; making an average of \$1,085, or an increase of about 95 cents over last year, for each child in the State. No better evidence can be given of the readiness of the people to place our schools on the highest basis, than the steady increase of the grants for their support from year to year. The best friends of education were, fearful years ago, that the largest amount had been reached that could be raised by popular vote, but they have been surprised by an annual average increase of nearly \$300,000 for the four or five past years. In addition to the amount raised for instruction the last year, there have been expended in the erection and repair of school-houses, \$1,295,314. In the year 1845, my honored predecessor, Governor Briggs, estimated

that the State contributed for all the purposes of public education, about \$1,000,000; but the expenditure in the State the past year, for which the people tax themselves, is over \$4,400,000. Surely we may congratulate ourselves that this is not an age of materialism with us, when the people so fully appreciate the importance of cultivating the mind.

No parent is justified in withholding from his child the benefits which he may receive from such ample provision for his education. The law passed by the Legislature, at its last session, abolishing the district system in all parts of the State, has been carried into effect cheerfully, and with the best results.

There may be cases of hardship and inconvenience in a few instances, but a new order of things will soon be established, better suited to the wants of the time, and more in accordance with our enlightened system of public instruction.

HARVARD UNIVERSITY.

WE have received from the Librarian, JOHN L. SIBLEY, A. M., the catalogue for the present academical year. The number of undergraduates is 563, viz. Seniors, 130; Juniors, 159; Sophomores, 126; Freshmen, 148. There are also 2 Graduate Students; 4 Resident Graduates; 36 Divinity Students; 120 Law Students; 43 Scientific Students; 9 Mining Students; 306 Medical Students; 16 Dental Students; 10 Episcopal Theological Students; in all 1,107, after deducting for those twice counted. The total number of books in the different libraries is 184,000.

REQUISITES FOR ADMISSION.

Candidates for admission to the Freshman class are examined as follows:

LATIN.

In the whole of Virgil,
The whole of Cæsar's Commentaries,
The Orations of Cicero included in Folsom's, Johnson's, or Stuart's edition,
Latin Grammar, including Prosody,
And in writing Latin.

GREEK.

In Felton's Greek Reader,
Or the whole of the Anabasis of Xenophon, and the first *three* Books of Homer's Iliad (omitting the Catalogue of Ships in the second Book),
Greek Grammar, including Prosody,
And in writing Greek with the Accents.

Real equivalents will be received for any of the books named above, or for parts of them: as, for instance, *six* Books of Ovid's Metamorphoses in place of either the *last four* Books of the Æneid or the Bucolics and Georgics of Virgil; the Catiline and Jugurtha of Sallust, in place of the *last three* Books of Cæsar;

the *first three* or the *last three* Books of Xenophon's *Cyropædia*, or the extracts from Herodotus in Felton's *Greek Historians*, in place of the *last three* Books of the *Anabasis*.

No particular grammars are designated, as the object of the examination is to ascertain rather the candidate's knowledge of *general principles* and *forms*, than of specified books. What is contained, however, in Harkness's *Elements of Latin Grammar* or Allen's *Latin Grammar* may serve to indicate the amount required.

In Latin the following pronunciation is recommended: *ā* as in *father*, *ă* the same sound shorter, *ē* like *a* in *fate*, *ĕ* as in *set*, *ī* as in *machine*, *ĭ* as in *sit*, *ō* as in *hole*, *ō* as in *nor*, *ū* as in *rude*, *ŭ* as in *put*; *j* like *y* in *year*, *c* and *g* like Greek *κ* and *γ*.

Instructors are requested to teach their pupils to pronounce Greek with the *Greek Accents*, and with the so-called *Continental* sound of the vowels and diphthongs; for example, giving *α* the sound of *a* in *father*, *η* that of *a* in *fate*, *ι* that of *i* in *machine*, *ει* that of *ei* in *height*, *ου* that of *oo* in *moon*, *αυ* that of *ou* in *house*.

MATHEMATICS.

In Arithmetic, including the Metric System of Weights and Measures.

The elements of Algebra, as far as through Quadratic Equations.

Elementary Plane Geometry, including so much as is contained in the first XIII. Chapters of Professor Peirce's Treatise.

And (after 1870) in the use of Logarithms.

HISTORY AND GEOGRAPHY.

In the elements of Physical Geography.

In Ancient and Modern Geography.

In the historical and geographical notices found in the required Greek and Latin text-books.

And in Smith's *Smaller History of Greece*, or Sewell's *History of Greece*.

ENGLISH.

Students are also required to be examined, as early as possible after their admission, in reading English. Prizes will be awarded for excellence. For 1870, students may prepare themselves in Craik's *English of Shakespeare*, *Julius Caesar*, or in Milton's *Comus*. Attention to Derivations and Critical Analysis is recommended.

Students are advised to pursue an elementary Course in Mechanics before entering College.

A set of recent Examination Papers will be sent to any Teacher, on application to the President's Secretary.

ANSWERS TO CORRESPONDENTS.

[The following "answers" have been sent us by one of the Contributing Editors. We agree with him in the opinion that a department of this kind might be made very useful.]

"SCHOOL."—I shall be charitable enough to suppose that your teacher did not intend to deceive the committee, but that he thought the recitation in geography would be more interesting than the writing. It is not wise for any teacher to change his regular order of exercises because there is company in ; yet, I have had a lady turn to me when I was visiting her school, and say, "What would you like to hear?" indicating a readiness to take up any branch to please me. With the committee, such a question should generally be asked ; but before casual visitors the programme should be followed. Had your teacher said, "We usually devote the next half-hour to writing, but perhaps you would prefer some other exercise," then the pupils would not have thought that the teacher desired to "show off" in his favorite branch ; nor would the committee, if he should learn the facts, think that the teacher had deceived him in order to keep out of sight badly written or untidily kept copy-books.

"X. Y. Z."—The lack of interest which your pupils indicate in respect to their studies may arise from several causes, but judging from some suggestive expressions in your letter, I am led to believe that the predominant reason in your case is, that you do not bring your personal presence to bear as directly or forcibly upon them as you might. Let the teacher be the teacher, not the text-book the teacher. If the eyes of the instructor, or rather school-keeper, are held close to the text-book, and one question after another is doled out mechanically to the pupils, the fore-finger of the right hand tracing out the printed answer, which the scholar is trying to say, then no wonder the drones predominate. Yesterday morning I heard a clergyman read his sermon ; heard, no, no, dozed while he did it, and now, do not know a word of it. At evening, I heard another, but how different. The man and the subject were both alive, and every eye was closely fixed upon the speaker. There will be no difficulty in remembering that discourse. A teacher can make any study interesting, provided he is freshly posted upon it, and is personally prominent in imparting the subject. It is terribly easy to be a lazy teacher, and to loll about in a soft-cushioned chair, hearing recitations ; but quite a different thing to stand wide awake before the scholars, bound that even the dullest shall know, and shall be able to express his knowledge ; turning to the black-board and illustrating ; watching the first wavering of attention and regaining it, — in a word, exhibiting Webster's qualities of the perfect orator, "Action, action, godlike action."

MEMORY. — "Yes, by all means. That teaching which totally disregards the memorizing of clear, concise, and comprehensive rules, after the principles upon which they are based are fully understood, will ultimately prove loose and defective. During the investigation of a mathematical principle, for example, the mind of the learner should be drawn out to original expressions of the laws involved ; but after the *substance* of the right answer has thus been presented, the exact

technical form in which it is given in the text-book or by the teacher should be perfectly acquired.

One of the complaints which we have heard from some Normal graduates has been, that while they were able to *make* rules to apply to each class of arithmetical examples, their Normal training had not fixed formulæ so fully in their minds that they would recur instantly when wanted. They must go through a sum, and make a rule first by a protracted course of reasoning, and much time would be taken for reasoning when it is wanted for working on established rules.

M. E. H. — The surest way to gain the good-will of that unruly boy, is to make him feel that he is of some use to you. Ask him to assist you about something, and show that you place confidence in him. Visiting parents will also have its effect on a pupil. Do not go to find fault, but as a friend to visit friends. If inquired of in regard to him, tell the truth, but be sure to speak of something commendable, for no boy is so bad that you cannot find some good in him.

J. P. — No; never tell your pupils that you do not intend to use the rod. Do not let them know of your opposition to corporal punishment, for they will surely take advantage of that knowledge. Many teachers have failed by so doing. Punish as little as possible, but when you are obliged to resort to that, do it effectually.

Several inquiries are left over to be answered in our next. Any one desiring information upon points connected with Education is hereby invited to send his questions to the Editor.

BOOK NOTICES.

THE MODEL SPEAKER. By Philip Lawrence. Philadelphia: Eldredge and Brother.

A book of 400 pages, containing over 200 selections. It has but six or seven pages of introductory matter, but what is given is judicious and to the point. The selections are admirable, embracing the standard declamatory pieces, and fine extracts from modern writers. It is very handsomely printed on tinted paper, neatly and substantially bound. The books issued by Messrs. Eldredge & Brother are creditable to their judgment and good taste.

READING AND ELOCUTION. By Mrs. Anna T. Randall. New York: Ivison, Phinney, Blakeman & Co.

About the same size, and mostly upon the same plan as the above. Greater prominence, however, is given to elocutionary exercises. The introduction covers about forty pages, relating to Orthoepy, Quality of Voice, Force, Melody, Gesture, Methods for Self-culture, Analysis and Method of Teaching, &c. This part of the book is very suggestive, and cannot fail to aid both teacher and scholar. The selections afford excellent practice, and indicate an elocutionary as well as a literary taste, on the part of the compiler.

THE YOUNG COMPOSER: A Guide to English Grammar and Composition. By Henry N. Day. New York: Charles Scribner & Co.

This volume is in the same form and style of the author's "Art of Composition," "Art of Discourse," &c. It teaches grammar upon the synthetic rather than the analytic plan. Thought is the soul of language, and different forms of expression must correspond to different forms of thought. Hence the author commences with the thought, and leads the young student by slow degrees into all the mysteries of grammar and composition. Scholars formerly studied grammar many years without ever finding out that it had anything to do with language, or the expression of thought. It was an outside affair in which some became expert, able to rattle off a large number of technical terms which to most had no meaning. Not so will it be with students of books of this kind.

THE HOLY GRAIL, and other Poems. By Alfred Tennyson, D. C. L., Poet Laureate. Boston: Fields, Osgood & Co.

This little volume has been welcomed by hosts of readers. It disappoints a little; but that is because the former "Idyls" led us to expect too much. It has many passages of great beauty, and that richness of expression characteristic of its author.

THE POETICAL WORKS OF ALFRED TENNYSON. New York: Harper & Brothers.

This edition of Tennyson contains all his poems. It is well illustrated and printed, and is the cheapest book we have seen this many a year. In paper covers it is sold for fifty cents; in handsome cloth binding, for one dollar.

MEDORA LEIGH; a History and an Autobiography. Edited by Charles Mackay.

With an introduction, and a Commentary on the charges brought against Lord Byron by Mrs. Beecher Stowe. New York: Harper & Brothers.

KITTY. By M. Betham Edwards. Library of Select Novels, No. 332. New York: Harper & Brothers.

A. WILLIAMS & Co., 135 Washington street, are the agents for the Harpers' publications. We have also received from them **THE ADDRESS**, delivered by Prof. Agassiz on the Centennial Anniversary of the birth of Alexander von Humboldt, with an account of the evening reception.

The celebration of this Anniversary by the Boston Society of Natural History was an exceedingly interesting occasion. Many will desire to possess in this form the noble address of Prof. Agassiz, and the record of that day's proceedings. The amount raised for the Humboldt Scholarship was \$7,463.-31; to which will be added the amount received from the sale of the address.

A GERMAN COURSE; adapted to use in Colleges, High Schools and Academies. By George F. Comfort, A. M., Professor of Modern Languages and Æsthetics in Alleghany College, Meadville, Pa. New York: Harper & Brothers.

A book of five hundred pages. The first part contains practical lessons for learning to read, write and speak the German language, somewhat on the

Ollendorff plan; the second part is devoted to familiar conversations in German, models of letters, forms of business, and selections from German literature; the third part is a compend of German grammar; the fourth part gives tables of German moneys, weights and measures, abbreviations, proper names, and a vocabulary. This statement of the plan of the book gives but little idea of its fulness, or its philosophical method. It is in every respect a superior work. We commend it to all interested in the study of the German language. The Harpers may safely challenge the publishers of German text-books to show a better specimen of typography.

MAGAZINES.

OLD AND NEW. The advent of this new magazine has excited unusual interest. The literary ability and progressive spirit of those connected with it assured it a host of readers. It has been well received even by those not in sympathy with its general purpose. Those liberally inclined, who are not afraid to face a little of the "new" while they enjoy the "old," will find it instructive and inspiring reading. It is edited by Rev. E. E. Hale, and has for contributors many of the best writers in the country. The January number contains articles by Harriet B. Stowe, Julia Ward Howe, Hannah E. Lunt, Henry W. Bellows, W. T. Brigham, Robert Collyer, Sidney Andrews, R. W. Emerson, Frederic Ingham, George Littleless, J. B. Torricelli, and James Walker. It is published by H. O. Houghton & Co., 135 Washington street, Boston, at *five dollars* per annum.

THE ACADEMY. A monthly record of Literature, Science and Art.

NATURE. A weekly illustrated Journal of Science.

Two English periodicals which made their first appearance towards the close of last year. The former is more devoted to literary criticism and knowledge of books; the latter to whatever relates to science. The January number of the *Academy* has articles under the heads of "General Literature and Art," "Theology," "Science and Philosophy," "Geography and History," "Oriental Philology," and "Classical Philology." The last number of *Nature* has "A Deduction from Darwin's Theory," "The State Telegraphs," "The Gold Fields of Victoria," "Oliver's Indian Botany," "A Plea for the Mathematician," "Whence come Meteorites?" and various shorter articles. They may be obtained of CROSBY & DAMRELL, 100 Washington street, Boston. The *Academy* at \$3.00 per annum; *Nature* at \$5.00.

Messrs. Crosby & Damrell's counters always present a tempting display of periodical literature.

GOOD WORDS. Edited by Norman Macleod, D.D. A monthly magazine published at Philadelphia by J. B. Lippincott & Co., at \$2.75 per annum.

A reprint of one of the most popular English magazines. It is the organ of no sect or party, but affords a large amount of good wholesome reading for everybody. Two serial stories commence with the January number. The other articles are "Days in North India," "A Visit to the Country of the Vaudois," "The Christianity of the Present and of the Future," "Our work-

ing People and how they Live," etc. No magazine has a better corps of writers.

VICK'S ILLUSTRATED CATALOGUE and Floral Guide for 1870 has been received. It is full of valuable information for the florist and gardener, and will be sent by mail to any one applying for it, for *ten cents*, not one-half its cost. Address James Vick, Rochester, N. Y.

THE MANUFACTURER AND BUILDER is published monthly at New York by Western & Company, at \$1.50 per annum. It is devoted to the interests of industrial progress.

THE NORMAL OFFERING is well known to Bridgewater Normal graduates. It has regularly made its appearance in manuscript for some years; and now for the first time appears in print. If the publication is continued we must ask an exchange. It is full of good things, even has a kind word for our own journal. By the way, Mr. and Mrs. Editors, why not send some of your surplus life in this direction? The last item can be appreciated by those who know the excellent Principal of the Bridgewater school.

"Why is Bridgewater one of the best places in the world for boys? Because it has one of the best Boy-dens."

OLIVER OPTIC'S MAGAZINE. Monthly Part. In addition to their weekly issue, Lee & Shepard will now issue this popular magazine in monthly parts. The January part is before us. It has a handsome cover, and makes a fine appearance. "Our boys and girls" can have their choice, weekly or monthly. \$2.50 per annum.

AMERICAN NATURALIST. A popular illustrated magazine of Natural History. This periodical will commence its *fourth* volume with the March number. It will be enlarged eight pages, and will be of the same general character as heretofore. It ought to be very widely circulated, for it is doing excellent service in popularizing natural science. Edited by A. S. Packard, jr., A. Hyatt, E. S. Morse, and F. W. Putman. Published by the Peabody Academy of Science, Salem. Terms, \$4.00 a year.

THE WOMAN'S JOURNAL. In quarto form. Published weekly at Boston and Chicago. Edited by Mary A. Livermore, Julia Ward Howe, Lucy Stone, Wm. Lloyd Garrison, and T. W. Higginson. These names are a sufficient guarantee that it will be ably conducted. It will be devoted to the interests of woman, to her Educational, Industrial, Legal and Political equality, and especially to her right of suffrage. Office, 3 Tremont place, Boston. Terms: \$3.00 a year.

NOTICES.

Subscribers wishing to discontinue the *Teacher* (of course there are but few such), are requested to write to that effect, giving post-office address. It is not enough to return the number sent, as we can seldom ascertain from what place it came.

The postage on manuscript for the printer, if sent in an unsealed envelope, is the same as on printed matter, namely, *two cents*.